

How Arlington Got Greener

Eco-Fest 2015

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Overview

- Background/Timeline
- Energy Efficiency Measures (ECM's)
- Results
- Looking Forward

Background/Timeline

- Arlington has a long history of supporting sustainability and energy efficiency efforts
- 2006 – Adoption of Arlington Sustainability Action Plan(ASAP)
- 2010 – Arlington earns designation as Green Community (GC)
- 2010 – Arlington is awarded its 1st GC Grant - \$200,188

Background/Timeline Cont'd

- 2012 – Arlington is awarded its 2nd GC Grant - \$250,000
- 2012 – Town Meeting approves \$200,000 in funding for ECM's
- 2012/2013 – Arlington partners with Bedford to hire Regional Energy Manager (REM)
- 2013 – Arlington is honored DOER with the Leading By Example Award
- 2014 – Arlington is awarded its 3rd GC Grant - \$247,894

Energy Efficiency Measures



- 2010 GC Grant - \$200K
- LED Streetlights
- Steam Trap Replacement
- Energy Management System Upgrade at the Hardy School



Energy Efficiency Measures



- 2012 GC Grant - \$250K



- HVAC improvements at AHS



- Installation of variable speed drives at multiple schools and the Robbins Library

Energy Efficiency Measures



- 2014 GC Grant - \$247K



- HVAC improvements at the Ottoson Middle School



- Installation of an energy management system at AHS

Energy Efficiency Measures

- \$200K from Town Meeting Appropriation
 - Lighting Upgrades at Robbins Library
 - HVAC Upgrades at Robbins Library
 - Lighting Upgrades at DPW Facilities
 - Fault Detection and Diagnostic System at Peirce School

Energy Efficiency Measures – LED's

Project Snapshot	
Streetlights Replaced	3000
Kilowatt Hours Saved	703K
Annual Energy Savings	\$105K
Cost of LED Streetlights	\$1,040M
Town of Arlington Funded	\$714K
Green Communities Funded	\$160K
Nstar Incentive Funded	\$165K
Annual Maintenance Savings	\$40K
Total Annual Savings	\$145K
Payback to Arlington Taxpayers	4.9 Years



Results

- Annual Reduction of 14,366 MMBtu
 - Annual Reduction of 1,468,295 kwh
 - Annual Reduction of 93,561 therms
 - Annual Projected Cost Savings - \$312K

Annual Reduction in emissions equates to taking nearly 300 cars off the road or powering approximately 150 homes

Results

Timeline of Annual Municipal Energy Use							
	Baseline MMBtu	Year 1 MMBtu	Year 2 MMBtu	Year 3 MMBtu	Year 4 MMBtu	Year 5 MMBtu	For Most Recent Year: Change vs. Baseline (%)
Note Fiscal or Calendar Year	FY 2009	2010	2011	2012	2013	2014	
Buildings	100,386	90,830	92,304	76,757	88,852	80,092	80%
Water/Sewer & Pumping	595	581	495	474	448	470	79%
Vehicles	17,688	17,708	16,655	17,090	17,313	16,967	96%
Street and Traffic Lights	5,237	5,243	5,166	4,774	3,928	1,051	20%
TOTAL ENERGY CONSUMPTION	123,906	114,362	114,620	99,095	110,541	98,580	20%

Looking Forward

- Currently drafting application for 4th GC Grant
 - ECM's at Bishop School (EMS, Boiler)
 - ECM's at Ottoson (domestic hot water heater)
 - Site lighting at various schools
 - FDD installation at Brackett School
 - Estimated Request for \$250K

Looking Forward

Proposed Solar PV Systems: Town of Arlington

School	System Size (kW_dc)	First Year Production (kWh)
Arlington High School	178	206,167
Ottoson Middle School	119	135,660
Stratton Elementary School	84	95,760
Dallin Elementary School	80	92,182
Thompson Elementary School	77	88,500
Peirce Elementary School	52	47,880
Total	592	678,059

Looking Forward

- Looking at electric vehicle technology
- Further installation of FDD systems
- Focus on Stratton redesign

Questions?